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Changes of Property Right Institutions on Namibian Marula Fruits as Impacts from Biotrade

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Introduction

Marula (*Sclerocarya birrea*) is one of the traditionally used multipurpose fruit trees in southern Africa (SHACKLETON et al., 2003). In Ovamboland, the north central region of Namibia, a traditional custom rule regulates access to marula fruits and its processing as an important women's collaborative activity, including the barter exchange and gift giving of marula fruit products. The abolition of apartheid, with the declaration of independence of Namibia from South Africa, and expansion of urbanization were accompanied by commodification of marula fruit products in local markets. These trigger commercialization of marula crude oil production through biotrade contracts. In 1996, the Namibian government initiated to establish Eudafano Women's Cooperative (EWC) with the aim to increase income opportunities of women in this region (DU PLESSIS, 2006). Produced marula oils are sold as a raw material of cosmetic products to two overseas foreign companies of the Body Shop UK and Aldivia in France (PTA and ALDIVIA, 2006; THE BODY SHOP, 2007).

Influences from biotrade on local resource use rules are expected to empower local women and the poor as designed economic institutional changes. This study aims to depict conceptual structures of changes in economic institutions at local level with Hagedorn's (2008) Institutions of Sustainability (IoS) framework and Williamson's (2000) four level model of economic institutions and adapting a concept of power from Herbert Simon (1979) as a significant element to form bounded rationalities, in order to evaluate changes in behaviors of resource users of marula fruits and marula fruit products due to biotrade contracts. The IoS provides logical explanations of institutional changes with five decomposed elements; transactions, actors, institutions, governance structures, and action arenas where other four components meet. Transaction is a unit of analysis, which creates interdependencies between not only actors but also social and ecological systems (HAGEDORN, ARZT and PETERS, 2002). The main transacted components in this study are marula fruit products, money, and entitled property rights. Institutions are understood here as "humanly devised constraints that shape human interactions (NORTH, 1990, 3)" including formal rules, such as laws, and informal rules, such as customs and beliefs. Institutions are regulated under governance structures. Under asymmetrical bargaining relations of economic actors, bargaining power, as the ability of economic actors to achieve favourable outcomes (FARRELL and KNIGHT, 2003, 544), can be understood as a determinant of institutional changes by convincing other actors of possible economic choices. A sequence of

institutional changes can be explained as interactions with four embedded realms: social embeddedness, such as custom rules and social beliefs; institutional environment, composed of property rights; governance or formal rules; and resource allocation and employment (WILLIAMSON, 2000).

African states are a hybridization of Western institutions and African traditional systems (CHABAL and DALOZ, 1999, 9); therefore, their concept of economic rationality differs from those defined in Western economic theory (FAFCHAMPS, 2004). Simon's (1979) concept of bounded rationality can be understood here that African economic actors face difficulties of processing information provided from European culture. Following postcolonial African economic theory, this study analyses systems of thoughts and images of economic actors.

Material and Methods

Grounded theory can be employed with abduction approach, which can be understood as reasoning to craft the most plausible interpretations of collected data sets (CHARMAZ 2006, 188). Following this methodology, the qualitative data were collected through a combination of document surveys on marula uses and social context (e.g. DEN ADEL, 2010; SULLIVAN and O'REGAN, 2003), and 37 semi-structured and unstructured interviews with villagers, the EWC, the NGO Centre for Research, Information, Action in Africa (CRIAA), and Namibian ministries, during fieldwork in Windhoek and in northern Namibia in 2011. Following procedures of grounded theory, data were segmented into 90 codes and 11 categories by coding, whose links provide structural explanations for institutional changes with axis reference of three components of the IoS; institutions, governance structures, and actors.

Results and Discussion

We first illustrate the mechanism of intended institutional changes by the implementation of designed institutional sets of biotrade contracts and the EWC under social context, intended to create new choices of local women for the sales of marula products (Figure 1).

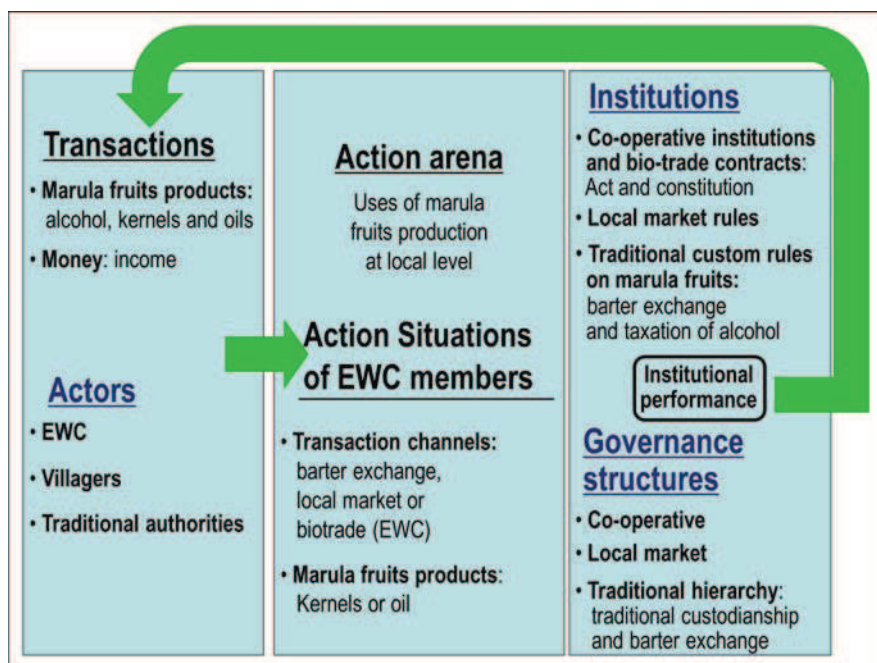


Figure 1: The Institutions of Sustainability on uses of marula fruits at local level
 Source: adapted from Hagedorn (2008, 360)

Institutional performances regulate transactions of marula kernels and money between involved actors, under social contexts, regulated by traditional custom rules and local market rules on marula fruit products. This forms economic action choices of members of the EWC as action situations, in terms of transactions of marula fruit products: gifts giving of kernels or oils, sales in local market, or sales of kernels to the EWC.

Parallel to these intended institutional changes, we found three unintended institutional changes in economic activities on marula fruit products, understood with the IoS as institutional innovations. In terms of access right to marula fruits, a traditional rule prohibits men to collect marula fruits or even to come close to trees during harvest season. On the contrary, access rights are now allocated not only among local women but also to men. This phenomenon can be understood that the EWC brought economic incentives for local women to increase her household income, designed as an institutional change, following Williamson's framework, at resource allocation level. This, further, motivates men to infringe a social taboo and take a risk of social sanction of other village members, which can be interpreted as an institutional innovation in the social embeddedness. This change brought an action situation of local women on the allocation of fruit access rights. As a result, they decided to alter a traditional property right rule, in a way to increase her household income. This is the second institutional innovation at the resource allocation level.

The second change reflects on property rights of marula fruits and alcohol extraction machine. Cooperative rules are designed to regulate marula fruits as club goods, following a traditional rule, and machines as common property of EWC members. However, we found that the ownership right of a machine is transformed into a private property of the literate rich. Reflecting a tendency of local transactions, the processing of marula fruits for alcohol, which was originally a barter gift, is now gradually oriented to the sales in local market. We interpret these phenomena that the mechanization of alcohol production was designed to be regulated by the cooperative rule as an institutional performance at the governance level of the Williamson's framework. This, however, enabled intensive use of marula fruits for the literate rich. Reflecting the increase of alcohol transactions in local markets, a change of the machine property can be understood to lead to marula fruits becoming a private interest. This change, interpreted as an institutional innovation at the level of cooperative governance, can lead a further institutional innovation at the resource allocation level in future, in terms of marula fruits.

The third change represents in labor allocation in the EWC factory. Villagers have the social beliefs that labor with machines is man's work. This can be observed in labor with machines in the EWC factory as well, in spite of the expectation to create employment for local women. This can be understood that the EWC, designed to craft an institutional performance at labor allocation level, faced less availability of female labor to work with machines, due to a habituated consideration of gendered labor allocation. Under an action situation of labor allocation of the EWC, female labor was substituted for the male, and an institutional innovation at the labor allocation level was generated.

These unintended institutional changes can exacerbate power asymmetries between the rich and the poor as well as between genders. Referring to the IoS, these unintended institutional innovations can be understood that biotrade have stimulated adverse transactional effects both on poor women's incomes, which have not increased, and on gender inequality in paid work opportunities, which has not been reduced. Increasing unequal present patterns of resource uses may reduce the interdependencies of local women, found in social capital, in terms of sharing fruits as resources regulated under a traditional rule.

Conclusions and Outlook

This study reveals that biotrade in marula crude oil in northern Namibia is not success, with respect to empowering women and the poor. Power asymmetries between genders as well as between the rich and the poor are found to play a key role in determining how biotrade contracts in marula oil are adapted by the local community in Ovamboland. It is suggested that changes in property rights on marula fruits might help to limit future damage from biotrade contracts for sustainable uses of marula fruits.

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